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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/669,878 | 09/25/2003 | Kenji Yamaguchi | 117043 | 5159 |
| 25944 | 7590 | 07/01/2005 | EXAMINER | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | NGUYEN, TAI T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2632 | |
| DATE MAILED: 07/01/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,878

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Tai T. Nguyen

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (US 6,251,048) in view of Odagiri et al. (US 6,204,807).

Regarding claim 1, Kaufman discloses a body motion detector (10) for use with a user comprising:

a body motion detecting device (22) for detecting body motion accompanying repetitive motion of the user (figure 1);

a determining device (14) for determine whether an amplitude value of a detection result of the body motion detecting device is within a predetermined reference range (col. 16, lines 20-51); and

a notification device (figure 1) to generate a notifying signal whenever a determination result by the determining device is within the predetermined reference range (col. 12, line 41 through col. 13, line 40).

Kaufman discloses the instant claimed invention except for a rectangular wave converting circuit. Odagiri et al. teach a rectangular-wave converting circuit (113, figure 1) for converting a sensed signal generated from a pitch sensor into a rectangular wave

(110, col. 5, lines 36-45). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the rectangular-wave converting circuit as taught by Odagiri et al. in the system as disclosed by Kaufman for the purpose of shaping the waveform signal (sine wave) generated from the sensor into rectangular wave signal having an amplitude value same as sine wave in order to enable the microprocessor to determine the body motion of the user.

Regarding claims 2-3, Kaufman discloses the detection result being the motion intensity and the motion period of the repetitive motion (col. 16, lines 20-51).

Regarding claims 4-5, Kaufman discloses the predetermined reference range having upper and lower limits set by the user and determined by the determining device (col. 13, line 53 through col. 14, line 20).

Regarding claim 6, Kaufman discloses everything claimed except the explicit showing of predetermined reference range for the motion period being calculated from motion time and motion calories assumed, which are set by the user. Since Kaufman discloses that the determining device control program can be based on various factors including calories expended (col. 13, line 60 through col. 24, line 16), it would have been obvious to one of ordinary skill in the art at the time the invention was made that the predetermined range could be set based on the desired calorie expenditure of the user within a certain time period.

Regarding claim 7, Kaufman discloses the detection result being either the motion intensity and accumulated motion frequency of the repetitive motion (col. 16, lines 20-51).

Regarding claim 8, Kaufman discloses determined range for the motion intensity and the motion period being above the below limit reference value set by the user (col. 16, lines 20-51).

Regarding claim 9, Kaufman discloses the accumulated motion frequency reaches the accumulated target frequency, the notifying device generating a notifying signal difference from the notifying signal and reset the accumulated motion frequency to 0 (col. 7, line 61 through col. 8, line 16).

Regarding claim 10, Kaufman discloses the motion detecting device being an acceleration sensor (figure 10, col. 27, lines 11-22).

Regarding claims 11-12, Kaufman discloses a body motion detector (10) for use with a user comprising:

- a body motion detecting device (22) for detecting body motion accompanying repetitive motion of the user (figure 1);

- a determining device (14) for determine whether a detection result of the body motion detecting device is within a predetermined reference range (col. 16, lines 20-51);
- and

- a notification device (figure 1) to generate a notifying signal whenever a determination result by the determining device is within the predetermined reference range (col. 12, line 41 through col. 13, line 40);

- a biological/pulse reaction detecting device to detect a biological reaction of the user (col. 6, lines 18-54). Kaufman discloses everything claimed except for a calculating device calculating the reference range being based on the biological reaction

detecting device. Since Kaufman discloses the calculating/determining device monitoring the heart rate to maintain the user pulse within a certain range (col. 16, lines 20-51), it would have been obvious to one of ordinary skill in the art at the time the invention was made that the reference range could have been calculated based on biological reaction detecting device in order to prevent the user from a dangerous condition.

Kaufman discloses the instant claimed invention except for a rectangular wave converting circuit. Odagiri et al. teach a rectangular-wave converting circuit (113, figure 1) for converting a sensed signal generated from a pitch sensor into a rectangular wave (110, col. 5, lines 36-45). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the rectangular-wave converting circuit as taught by Odagiri et al. in the system as disclosed by Kaufman for the purpose of shaping the waveform signal generated from the sensor into rectangular wave.

Regarding claim 13, Kaufman disclose everything claimed except for the predetermined reference range is changed so that the pulse rate is within the range of a target pulse rate when the pulse rate is beyond the range of a target pulse rate previously set by the user even if the determination result is within the predetermined reference range. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the pulse range parameters could be altered if the user desires to change the pulse rate configuration settings.

Regarding claim 14, Kaufman discloses everything claimed except for the pulse rate calculating device analyzing frequency of the detection signals of the pulse wave

detecting device and the body motion detecting device using FFT. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use FFT for the pulse determining rate in order to facilitate computation thereof.

Regarding claim 15, Kaufman discloses the notification signal being a sound from an alarm (col. 1, lines 10-26).

Regarding claims 16-17, Kaufman discloses the body motion detector to be worn on a part of user's body (col. 1, lines 10-13). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the body motion detector being mounted on an arm of the user for the purpose of monitoring the heart rate/pulse of the user during the exercise.

Regarding claim 18, refer to claims 11-12 above.

Response to Arguments

3. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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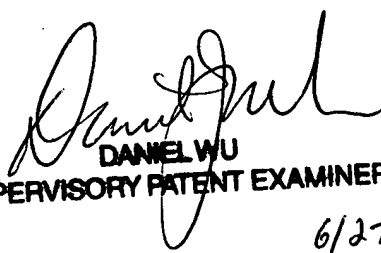
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai T. Nguyen whose telephone number is (571) 272-2961. The examiner can normally be reached on Monday-Friday from 7:30am-5:00pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 23, 2005
Tai T. Nguyen
Examiner
Art Unit 2632


DANIEL WU
SUPERVISORY PATENT EXAMINER
6/27/05